

ABSTRACT OF THE DISCLOSURE

A gas discharge laser having an elongated cathode and an elongated anode with a porous insulating layer covering the anode discharge surface. A pulse power system provides electrical pulses at rates of at least 1 KHz. A blower circulates laser gas between the electrodes at speeds of at least 5 m/s and a heat exchanger is provided to remove heat produced by the blower and the discharges. In preferred embodiments at least a portion of the anode is comprised of lead, and fluorine ion sputtering of the anode surface creates the insulating layer (over the discharge surface of the anode) comprised in large part of lead fluoride. In a particular preferred embodiment the anode is fabricated in two parts, a first part having the general shape of a prior art anode with a trench shaped cavity at the top and a second part comprised of lead rich brass and disposed in the trench shape cavity.